
Assessing Medical Preparedness for a Nuclear Event - The State Public Health Agency Perspective

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Coordination in a Radiological/Nuclear Emergency

- The response to a radiological emergency is guided by:
 - The National Response Framework
 - Radiological Incident Annexes
 - National Planning Scenarios
 - Scenario 1: Nuclear Detonation – 10-Kiloton Improvised Nuclear Device (IND)
- These planning and response principles are followed by all federal, state, local, tribal and private entities during a radiological incident.

State & Territorial Public Health Agency Roles and Responsibilities

Plan ~ Respond ~ Recover

Population Monitoring

Worker Health and Safety

Medical Surge Patient Care

Medical Countermeasures
Distribution

Behavioral Health

Decontamination

Protective Actions Determination

Fatality Management

Food and Water Safety

Veterinary Medical Support

Re-entry Clearance

**Surveillance ~ Analysis ~ Crisis/Risk Communication ~
Education & Training**

Planning “Advantages”

- Groundwork on fixed nuclear generating station emergency planning
- Benefits of “All Hazards” preparedness
 - The “80/20” Rule”

Event Specific Planning Challenges of an IND

- The detonation of an IND in a major metropolitan area will be a catastrophic event.
 - There will be little to no warning before detonation.
 - Local response capacity will be overwhelmed immediately.
 - Infrastructure will be destroyed.
 - Federal assets will be requested immediately.
 - There will be long term recovery and re-entry demands.

Scenario 1: Nuclear Detonation

10-kiloton Improvised Nuclear Devise

Casualties	Hundreds of thousands
Infrastructure Damage	Total within radius of 0.5 to 3 miles
Evacuations/Displaces Persons	100,000 in affected area seek shelter in safe areas (decontamination required for all before entering shelters) 250,000 instructed to shelter-in-place as plume crosses region(s) 1 million+ self-evacuate from major urban areas
Contamination	Various levels up to approximately 3,000 square miles
Economic Impact	Hundreds of billions of dollars
Potential for Multiple Events	No
Recovery Timeline	Years

IND Preparedness Challenges

- Assessment of threat
- Greater focus on other threats and competing priorities
 - Biological (anthrax and pandemic flu)
 - Natural Disasters
 - RDD vs. IND
- Resource limitations
 - Funding
 - Human Capital

IND Public Health Preparedness Efforts

- Moving from “awareness” to building capacity and capability
- Moving from “planning to plan” to tangible and foundational plan development
- Strong regional and cross-jurisdictional reliance and coordination
- Examples:
 - Revising Radiological Response Plans to include IND
 - Surge Coordination Planning
 - e.g. East Regional Burn Consortium
 - First responder and clinician training
 - Medical countermeasures & PPE stockpiling
 - Radiation detection and dosimetry procurement and placement

Recommendations to Advance Public Health Preparedness to Effectively Manage the Consequences of an Improvised Nuclear Device

- Clarity of threat
 - Right-sized funding commitment and national investment
 - Better federal coordination and emergence of a Leader or “Champion”
 - Enhanced transfer of military based knowledge, procedures and experiential learning to the civilian public health sector
 - Improved medical countermeasures and related technologies (e.g. BARDA & SAFETY Act Initiatives)
 - Re-examine and affirm the role of the Nation’s disaster medical system in the context of IND mass casualty care
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